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Repository Citation

William E. Crawford and Jesse D. McDonald, *Product Liability for Design in Louisiana*, 50 La. L. Rev. (1990)

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Product Liability for Design in Louisiana

William E. Crawford* and

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Most product liability litigation reaching the courts centers around the allegation of deficient design or inadequate warnings, or both. Successfully attacking a product's design ordinarily is the most difficult type of product liability case and is the most expensive for both the plaintiff and the manufacturer. Unlike other kinds of product liability cases, the design case impacts an entire product line. Hence, the manufacturer is often willing to defend the design case without regard to litigation costs. For the trial lawyer, both counsel for plaintiff and counsel for defendant, the design case is the most complex and demanding.

The Louisiana Products Liability Act, enacted by the legislature effective September 1, 1988,¹ as Louisiana Revised Statutes 9:2800.51 through 59, establishes the exclusive theories of liability for manufacturers for damages caused by their products. Section .54 of the Act identifies the elements that the plaintiff must prove to establish a manufacturer's product liability, and recognizes four types of product deficiencies that may give rise to liability, one of which is a deficiency in the product's design. Section .56 of the Act provides the specific elements that the plaintiff must prove to establish that a product's design is "unreasonably dangerous in design." Section .59 provides three defenses to design liability, which the manufacturer has the burden of proving. Under these provisions, the elements a claimant must prove for design liability are:

- (1) claimant's *damage* was proximately caused by
- (2) a *characteristic* of the product that:
 - (i) existed at time product left manufacturer's control
 - (ii) or results from alteration or modification that is *rea-*

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1. 1988 La. Acts No. 64.

sonably anticipated, and

(iii) is *unreasonably dangerous* in its design (as defined in Section .56)

(3) and that the *damage* arose from *reasonably anticipated use* of the product.

Section .56 describes twin requirements for a product to be "unreasonably dangerous in design," both of which must have existed at the time the product left the manufacturer's control.² These comprise a threshold requirement and a balancing test requirement, which can be summarized as follows:

The Threshold Requirement:

- (i) there *existed* an *alternative design*
- (ii) *capable* of preventing claimant's damage

The Balancing Test Requirement:

A risk/utility balancing test that provides that the *risk* must *outweigh* the *utility*.

The risk side encompasses the following:

- (i) the *likelihood* the product's *design* at the time of the accident would cause *claimant's damage*, and
- (ii) the *gravity* of that damage; but in determining the "likelihood" element, all "adequate warnings must be taken into account which the manufacturer has taken reasonable steps to provide users and handlers."

The utility side encompasses the following:

- (i) the *utility* of the product as designed at the time of the accident

2. La. R.S. 9:2800.56 (Supp. 1989), titled "Unreasonably dangerous in design," provides that:

A product is unreasonably dangerous in design if, at the time the product left its manufacturer's control:

(1) There existed an alternative design for the product that was capable of preventing the claimant's damage; and

(2) The likelihood that the product's design would cause the claimant's damage and the gravity of that damage outweighed the burden on the manufacturer of adopting such alternative design and the adverse effect, if any, of such alternative design on the utility of the product. An adequate warning about a product shall be considered in evaluating the likelihood of damage when the manufacturer has used reasonable care to provide the adequate warning to users and handlers of the product.

(ii) the adverse effect, if any, on *utility* by the alternative design arising not only from changes in usefulness, but also from lessened or added dangers arising from the alternative design.

(iii) the *burden* on manufacturer of adopting such an alternative design.

Absent from plaintiff's burden of proof are any issues relating to *knowledge* available to the manufacturer or design *feasibility*. These issues comprise elements of defenses under Section .59 for which the manufacturer has the burden of proof.

Design liability in Louisiana before the new Products Liability Act was detailed by the supreme court in *Halphen v. Johns-Manville Sales Corp.*,³ which provided the following three separate theories for design liability: (1) unreasonably dangerous per se, which was a simple risk/utility balancing test; (2) unreasonably dangerous because an alternative product existed that would serve the same needs and desires with less risk of harm; and (3) unreasonably dangerous because an alternative design existed that was feasible with less harmful consequences. Under *Halphen*, the manufacturer was presumed to have the knowledge of an expert that keeps abreast of all scientific knowledge, discoveries, and advances. In contrast, under the new Products Liability Act, only a single theory of design liability is provided, which is not the same as any of the three theories provided by the court in *Halphen*. While the new Products Liability Act incorporates a risk/utility balancing test for design liability, the test comes into play only after plaintiff has identified an alternative design for the product that was in existence at the time the product left the manufacturer's control which had the capability of preventing plaintiff's harm. Further, under the new Act, the balancing test involves a comparison of the characteristics of the product as originally designed with the characteristics of the product as alternatively designed.

THE THRESHOLD REQUIREMENT

As indicated, to meet the "threshold requirement," plaintiff must prove that there *existed* an *alternative design* that was capable of preventing claimant's damage. The following questions of interpretation of these terms immediately arise:

(a) What is required to show that an alternative design "*existed*" when the product left the manufacturer's control?

- Is it sufficient that the design was merely conceived by some person? or

3. 484 So. 2d 110 (La. 1986).

- In addition to being conceived, must it have been reduced to written word description or drawing? and
- Must the design have been acted upon by some manufacturer, and actually constructed and marketed for use on products of some kind?

(b) Is there any special meaning in the phrase "*for the product*"?

- Does this phrase mean that the alternative design must not only be in "existence," but additionally:
 - Must the usefulness or suitability of the design have been associated with the product or similar products in some way as being useful therefor? or
 - Must the alternative design that "existed" have actually been manufactured and used by a manufacturer on some kind of product? or
 - Must it have been manufactured and in use on the same type or class of product as that involved in the accident?

(c) Is there any special meaning attached to the word "capable" beyond its ordinary meaning?

The threshold requirement that an alternative design be in "existence" does not appear to be a part of the design liability provisions of product liability legislation in other states. It is also not contained in the design liability provisions of the proposed Louisiana Products Liability Act provided to the legislature in 1983 by the Louisiana State Law Institute, nor in the Uniform Product Liability Act promulgated in 1977 by the United States Department of Commerce.⁴

At a minimum, the threshold requirement that an alternative design existed at the time the product left the manufacturer's control appears to mean that, at that time, the alternative design identified by plaintiff must have been conceived in the mind of some person and must have either been described in writing or laid out in drawing form. Otherwise, the design has not taken shape and organization sufficient to rise to the dignity of "design." This is consistent with an accepted definition of design as: "A mental project or scheme in which means to an end

4. Both the proposed Products Liability Act prepared by the Louisiana State Law Institute for the Legislature in 1983, La. H.R. 711, Reg. Sess. (1983), and the proposed Uniform Products Liability Act of 1977, provided for a risk/utility balancing test as an element of design liability and required that the plaintiff prove that an alternative design for the product was feasible and that the effects of the alternative design be taken into account in a risk/utility balancing test. However, neither of the proposed Acts required that the alternative design actually be in existence at any point in time.

are *laid down*.”⁵ To implement the legislative intent, courts may require that an alternative design be commercially or industrially available, i.e., published in a text, journal, or patent application, or the subject of lecture at an industry conference. This interpretation is consistent with Section .59(A)(2) and (3), which contemplate that such an alternative design be based on “reasonably available scientific and technological knowledge.” Reasonably interpreted, the threshold requirement does not demand that the alternative design already be incorporated into the product or on the same kind of product made by other manufacturers. Such an interpretation would render meaningless the “feasibility defense” of Section .59(A)(3).

Interpretation of the phrase “for the product” as requiring that the usefulness or suitability of the design has been at least in some way associated with the product would also be inconsistent with the “feasibility defense” of Section .59(A)(3). Such an interpretation would also make “industry custom and usage” the standard selected by the Act, which our prior Louisiana jurisprudence never recognized as setting *any* “standard,” but was at best simply deemed to be “some evidence” of the reasonableness of a product’s design.⁶ For the same reasons, the “existing” alternative design need not have actually been manufactured and used on a product, especially not on the same type or class of product as that involved in the accident. No special meaning for the phrase “for the product” appears to be discernable.

It must be noted that the word “capable” refers to the relationship of the alternative design to the product that caused the injury. It must be shown, therefore, that if the product had incorporated the alternative design, its operative effect could allow plaintiff’s accident and damage not to occur. Use of the word “capable,” therefore, expands the meaning of the alternative design doctrine to include the requirement that the alternative design must adapt to *physical application* to the product. That is, the alternative design must be adaptable for physical incorporation into the original design and must have the operative effect of allowing the accident which injured plaintiff not to happen.

THE BALANCING TEST REQUIREMENT

To meet the balancing test requirement, the plaintiff must prove that the *risk side* must *outweigh* the *utility side*, in association with a comparison of the product as originally designed, with the changes arising

5. Webster’s Third International Unabridged Dictionary 611 (3d ed. 1981) (emphasis supplied).

6. *Panek v. Gulf Ins. Co.*, 341 So. 2d 46 (La. App. 3d Cir. 1976); *Leonard v. Albany Mach. & Supply*, 339 So. 2d 458 (La. App. 1st Cir. 1976), writ denied, 341 So. 2d 419 (1977); *Leathem v. Moore*, 265 So. 2d 270 (La. App. 1st Cir. 1972).

in risk and utility from incorporating plaintiff's alternative design into the product. This comparison must also take into account the burden on the manufacturer of adopting plaintiff's alternative design. Unlike the threshold requirement, the risk/utility balancing test employed by the new Act in its design liability provisions is an old and familiar concept in Louisiana tort jurisprudence. Our Louisiana courts have long recognized that the risk/utility test is suitable for determining the presence of ordinary negligence.⁷ More recently, with the development of strict liability under Louisiana Civil Code article 2317, and its requirement that the thing in defendant's custody poses an "unreasonable risk of harm," the balancing test has come into common use.⁸ The risk/utility balancing test also has been used in cases involving ultra-hazardous activities under the doctrine established in *Langlois v. Allied Chemical Corp.*⁹

For a brief period, a risk/utility balancing test was even used in product liability cases by Louisiana courts to define an "unreasonably dangerous" characteristic of a product.¹⁰ From the Louisiana jurispru-

7. *Turner v. Caddo Parish School Bd.*, 252 La. 810, 214 So. 2d 153 (1968); *Vital v. Housing Authority of New Iberia*, 360 So. 2d 1182 (La. App. 3d Cir. 1978); *Miller v. Southern Farm Bureau Casualty Ins. Co.*, 189 So. 2d 463 (La. App. 3d Cir.), writ denied, 249 La. 750, 190 So. 2d 912 (1966); *Goff v. Carlino*, 181 So. 2d 426 (La. App. 3d Cir. 1965), writ denied, 248 La. 1033, 183 So. 2d 653 (1966).

8. *Dobbs v. Gulf Oil Co.*, 759 F.2d 1213 (5th Cir. 1985); *Brown v. Sears, Roebuck and Co.*, 514 So. 2d 439 (La. 1987); *Lany v. State*, 495 So. 2d 1284 (La. 1986) (plaintiff falls into hole along sea wall obscured by grass on lakefront area); *Entrevia v. Hood*, 427 So. 2d 1146 (La. 1983); *Hunt v. City Stores, Inc.*, 387 So. 2d 585 (La. 1980); *Cormier v. City of Breaux Bridge*, 524 So. 2d 764 (La. App. 3d Cir. 1988); *Duncan v. State Farm Fire & Casualty Co.*, 499 So. 2d 632 (La. App. 4th Cir. 1986), writ denied, 503 So. 2d 21 (1987); *Dean v. Lake Charles Harbor & Terminal Dist.*, 496 So. 2d 1352 (La. App. 3d Cir. 1986) (port's fender system containing gaps; deckhand falls when foot catches in gap of fender); *May v. Lafayette Parish Police Jury*, 487 So. 2d 503 (La. App. 3d Cir.), writ denied, 489 So. 2d 1276 (1986); *Lajaunie v. Metropolitan Property & Liab. Ins. Co.*, 481 So. 2d 1357 (La. App. 1st Cir. 1985); *Baker v. Sewerage & Water Bd.*, 466 So. 2d 720 (La. App. 4th Cir. 1985); *Carter v. Board of Supervisors*, 459 So. 2d 1263 (La. App. 1st Cir. 1984), writ denied, 462 So. 2d 1248 (1985); *Thompson v. Ewin*, 457 So. 2d 303 (La. App. 3d Cir.), writ denied, 460 So. 2d 1043 (1984) (11-year old child drowns in pool located in isolated rural area); *Bizette v. State Farm Ins. Co.*, 454 So. 2d 197 (La. App. 1st Cir.), writ denied, 459 So. 2d 539 (1984); *Wilson v. Wal-Mart Stores, Inc.*, 448 So. 2d 829 (La. App. 2d Cir. 1984); *McGee v. McClure*, 442 So. 2d 625 (La. App. 1st Cir. 1983), writ denied, 444 So. 2d 1225 (1984) (2-year old drowns in fenced pond in rural, fairly unpopulated area through a gate that was generally closed, but not closed at the time of the accident); *Verrett v. Cameron Tel. Co.*, 417 So. 2d 1319 (La. App. 3d Cir.), writ denied, 422 So. 2d 164 (1982); *Goodlow v. City of Alexandria*, 407 So. 2d 1305 (La. App. 3d Cir. 1981).

9. 258 La. 1067, 249 So. 2d 133 (1957).

10. Commencing in 1971 with the Louisiana Supreme Court's landmark decision in *Weber v. Fidelity & Casualty Co. of New York*, 259 La. 599, 250 So. 2d 754 (1971),

dence mentioned above, there are derived various important principles concerning the nature and functioning of the balancing test. A major principle has been adopted by our courts from the Restatement (Second) of Torts § 293, comment b, which involves the relationship between the two sides of a balancing test. In this respect, the Louisiana jurisprudence establishes that as the risk increases, either by the increased chance of injury or by increased severity of the harm, the amount of utility required to justify the risk increases proportionately.¹¹

The balancing test is described in the new Act by a single sentence¹² in Section .56, which provides:

The likelihood that the product's design would cause the claimant's damage, and the gravity of that harm, outweighed the burden on the manufacturer of adopting such alternative design and the adverse effect, if any, of such alternative design on the utility of the product.

the Louisiana courts shifted from the negligence standard in products cases to what the supreme court in *Weber* billed as "strict liability," with the *Weber* test being that a product was defective if it was found to be "unreasonably dangerous to normal use." In *Weber*, the supreme court provided no definition or test for determining when the product was "unreasonably dangerous" and this was simply left to the determination of the trier of fact.

Subsequently, some courts of appeal in Louisiana, on their own, commenced occasional use of the risk/utility test to determine "unreasonably dangerous" in products liability cases. The first such case appears to be *Guilyot v. Del-Gulf Supply, Inc.*, 362 So. 2d 816 (La. App. 4th Cir.), writ denied, 365 So. 2d 243 (1978).

The Louisiana Supreme Court briefly used the risk/utility test in products cases commencing with *Hunt v. City Stores, Inc.*, 387 So. 2d 585 (La. 1980), but the very next year the court switched to a "consumer expectancy" test to determine "unreasonably dangerous" in products cases, the same test that is provided in the Restatement (Second) of Torts § 402A (1986). *DeBattista v. Argonaut-Southwest Ins. Co.*, 403 So. 2d 26 (La. 1981), cert. denied, 459 U.S. 836, 103 S. Ct. 82 (1982). See also *Hebert v. Brazzel*, 403 So. 2d 1242 (La. 1981). Except for a few lower court decisions, the risk/utility balancing test was ignored in Louisiana product liability cases until the supreme court's reshaping of the product liability law in *Halphen v. Johns-Manville Sales Corp.*, 484 So. 2d 110 (La. 1986).

Along the way, some courts were uncertain in their choice to use the risk/utility balancing test. Thus, in *Strickland v. Fowler*, 499 So. 2d 199 (La. App. 2d Cir.), writ denied, 500 So. 2d 411 (1986), the second circuit applied both the risk/utility *and* the consumer expectancy test for design liability. In *Pawlak v. Brown*, 430 So. 2d 1346 (La. App. 3d Cir.), writ denied, 439 So. 2d 1072 (1983), the third circuit essentially merged both tests and applied the risk/utility test as means of determining consumer expectancy.

11. *Goff v. Carlino*, 181 So. 2d 426 (La. App. 3d Cir. 1965), writ denied, 248 La. 1033, 183 So. 2d 653 (1966); *Miller v. Southern Farm Bureau Casualty Ins. Co.*, 189 So. 2d 463 (La. App. 3d Cir.), writ denied, 249 La. 750, 190 So. 2d 912 (1966). See also Restatement (Second) of Torts, § 293 comment (b) (1965).

12. The sentence which follows simply addresses the "likelihood" of the damage element of the balancing test and requires that adequate warnings about the product be taken into account in determining such likelihood.

The sentence structure makes clear that the "risk" side of the balancing test encompasses the traditional elements of likelihood of damage and the gravity of such harm, and that the weight of these elements comprises this side of the balancing test. Conspicuous by its absence in this description of the "risk side" of the balancing test is mention of the plaintiff's alternative design. In contrast, the plaintiff's alternative design and the results flowing therefrom are principal factors of *both* elements comprising the utility side of the balancing test.

The above description makes clear that the object of the balancing test is to determine whether the risk "outweighed" the utility. There are no qualifying terms applied to "outweighed" and it appears clear that determining the existence of any outweighing at all—however slight—is the sole objective of the test. In neither the balancing test nor elsewhere in the new Act is there any requirement for a *margin* of safety. Rather, the Act speaks only in terms of a product characteristic being "*unreasonably dangerous*," with the test for "unreasonably dangerous" in design measured only by whether the product's risk *outweighed to any extent* at all, the product's utility. Thus, only if the "utility side" is outweighed by the "risk side," however slightly, does the plaintiff establish this requirement for design liability.

Likewise, the statutory wording of the balancing test indicates that the function of the balancing test is not solely to consider the risks and utility arising from the alternative design. The balancing test contemplates comparison of two designs; one is the "alternative design" incorporated into the utility analysis, and the other is the "product's design" referred to on the "risk side." The phrase "the product's design" refers to the product as designed at the time of the accident.¹³

Some questions concerning the interpretation of the elements of each side of the balancing test include:

- (1) What side of the test takes into account the measure of utility arising from the product's design at the time of the accident, as distinguished from the adverse effect on "such utility" arising from the alternative design?
- (2) What side of the test takes into account the increase or decrease of risk arising from incorporation of the alternative design into the product? Such changes in design are necessarily

13. Thus, in La. R.S. 9:2800.59 (Supp. 1989), which provides the manufacturer with three affirmative defenses, the opening paragraph refers to the liability "for damage proximately caused by a characteristic of the product's design," which clearly refers to the product as it existed at the time of the accident. Likewise, in the description of the balancing test itself, in La. R.S. 9:2800.56 (Supp. 1989), the phrase "the product's design" relates to the causing of claimant's damage, thereby also indicating reference to the product as it was designed at the time of the accident.

components of the test, and the threshold requirement mandates that the alternative design have a risk decreasing capability at least sufficient to avoid the damage that, in fact, occurred to plaintiff in the accident.

It reasonably appears that the measure of utility of the product's design at the time of the accident is accounted for on the utility side of the test. The statutory wording of the balancing test clearly refers to the utility of the product as the product was designed at the time of the accident.

The increase or decrease of risk arising from incorporation of the alternative design into the product should also be taken into account on the utility side of the test. The ultimate question posed by the Act regarding design liability is whether the product as designed at the time of the accident posed risks and possessed utilities judged, by means of the balancing test, as "unreasonably dangerous." The legitimate function of the effects flowing from the alternative design reasonably can apply only to the opposite side of the scale. Additionally, the "risk side" of the balancing test description in the Act refers only to the product as originally designed, whereas all references to the effect of the "alternative design" are relegated to the "utility side." New risks or decreased risks flowing from the alternative design clearly affect the usefulness of the product, and hence, legitimately affect the "utility side" of the balancing test.

COMPOSITION OF THE RISK SIDE

As summarized above, the risk side of the balancing test encompasses the following elements:

- (1) the *likelihood* the product's design at the time of the accident would cause claimant's damage, and
- (2) the *gravity* of that damage.

The statutory wording of the balancing test makes clear that the function of the *risk side* is to accumulate all danger factors associated with the product's use as originally designed and existing at the time of plaintiff's accident, taking into account all reasonably anticipated alterations and modifications to the product. However, the risk side has the following additional characteristics:

- (1) The focus of the *likelihood* of harm under the new Act is the likelihood that the product as designed at the time of the accident will cause *plaintiff's particular accident* and damage. The same is true of the gravity or seriousness of that harm.
- (2) In *measuring* the likelihood of harm, the statute requires that *warnings* provided with the product must be taken into account, so long as those warnings are "adequate" in nature

and the manufacturer has taken reasonable steps to provide those warnings to users or handlers of the product. This requirement is in accord with the previous Louisiana jurisprudence that recognizes that the instructions and warnings given with respect to the operating capabilities and limitations of a product are a significant part of the overall design.¹⁴

The plain statutory language of the new Products Liability Act now makes clear that, along with the physical design of the product, warnings meeting the Act's definition of "adequate warnings," which the manufacturer has taken reasonable steps to provide users and handlers of the product, are a legitimate tool to minimize dangers arising from a product's use so that it will not be "unreasonably dangerous."¹⁵

As discussed above, while risks arising from the product as originally designed are taken into account in the "risk side" of the balancing test, the same is not true of risks arising from the effect of the alternative design, which are accounted for solely on the utility side. It seems appropriate, therefore, to make observations concerning whether the alternative design identified by plaintiff simply makes the product safer only in the sense of avoiding plaintiff's particular injury. There is a temptation to think in simplistic terms by focusing on how an alternative design can prevent plaintiff's harm, without considering other dangers that may arise from similar or other uses of the product. The reality of product design is that while a particular alternative design advanced by the plaintiff may prevent plaintiff's particular accident and damage in the case at bar, the alternative design may also create other dangers under different circumstances resulting in a net danger gain to the product as alternatively designed.¹⁶

14. *Reed v. John Deere*, 569 F. Supp. 371 (M.D. La. 1983); *Dalton v. Tulane Toyota*, 526 F. Supp. 575 (E.D. La. 1981), rev'd on other grounds, 703 F.2d 137 (5th Cir. 1983); *LeBoeuf v. Goodyear Tire and Rubber Co.*, 451 F. Supp. 253 (W.D. La. 1978); *Tenneco Oil Co. v. Chicago Bridge & Iron Co.*, 495 So. 2d 1317 (La. App. 4th Cir.), writ denied, 497 So. 2d 1015 (1986).

Note: The use of warnings is also a legitimate tool for use by custodians of otherwise unreasonably dangerous things in Article 2317 cases. See *LaJaunie v. Metropolitan Property Liab. Ins. Co.*, 481 So. 2d 1357 (La. App. 1st Cir. 1985).

15. In the past, some courts have either ignored or have been unaware of these principles, thereby rejecting the legitimacy of warnings for use by a manufacturer as a tool, along with a product's intrinsic design, to minimize dangers from a product's use. Also, these courts have erroneously stated that a manufacturer has a duty to "design out" a hazard if it is feasible to do so, and can only resort to warnings if the hazard cannot be designed out. *Perkins v. Emerson Elec. Co.*, 482 F. Supp. 1347 (W.D. La. 1980); *Thomas v. Black & Decker (U.S.), Inc.*, 502 So. 2d 157 (La. App. 3d Cir. 1987).

16. *Schneider v. Sears, Roebuck and Co.*, 496 So. 2d 1258 (La. App. 5th Cir. 1986), where the claimed design defect in a riding lawn mower was the failure to have a "shut off" or "deadman's switch" under the seat, which would automatically shut off the

COMPOSITION OF THE UTILITY SIDE

As summarized above, the utility side of the balancing test encompasses the following elements:

- (1) the *utility* of the product as designed at the time of the accident.
- (2) the adverse effect, if any, on *utility* caused by the alternative design arising not only from changes in usefulness, but also from lessened or added dangers arising from the alternative design.
- (3) the *burden* on the manufacturer of adopting such an alternative design.

The utility side of the balancing test seeks to accumulate all the usefulness and societal benefits associated with the product generally—not just with respect to the product's role in injury to plaintiff in the case at bar. The Act's restrictive wording used to describe the *risk* side of the balancing test is not used to describe the utility side of the balancing test. The utility side also includes factors related to the defendant manufacturer's undertaking to design the product differently so as to incorporate plaintiff's alternative design. This is generally referred to as the "burden on the manufacturer." Unlike negligence and Louisiana Civil Code article 2317 cases, the new Louisiana Act requires evaluation of both the product's utility in its original design at the time of plaintiff's accident and this utility as hypothetically affected by the product's incorporation of the alternative design. The safety enhancement embodied in plaintiff's alternative design, which has the capability of preventing plaintiff's harm in his particular accident, is *only one of numerous*

engine when the driver got off the mower. It was alleged that this device would have prevented the plaintiff's injury, which was caused when the mower moved after the plaintiff got off the mower, leaving it running. The evidence showed, however, that while the alternative design would eliminate certain hazards, it created additional dangers to the safe operation of the mower in other situations. One such situation was that the rider was often jostled in the seat when the mower was used on uneven terrain, causing the motor to stop briefly. When the driver came back down on the seat the motor would restart with a surge because of the accumulation of unburned fuel. This surge caused the mower to be unstable and subject to overturning and throwing the rider from the machine. The court found the mower not defective in design.

For other cases illustrating the *risk* side of the balancing test, along with the types of evidence useful to prove the risk side (as for example, the past accident history of similar products), see *Zumo v. R.T. Vanderbilt Co.*, 527 So. 2d 1074 (La. App. 1st Cir. 1988) (discussing affidavit sufficiency in a Motion for Summary Judgment on the danger presented by a product); *Crochet v. Pritchard*, 509 So. 2d 501 (La. App. 3d Cir. 1987) (Article 2317 case); *Jurovich v. Catalanotto*, 506 So. 2d 662 (La. App. 5th Cir.), writ denied, 508 So. 2d 87 (1987); *Bloxom v. Bloxom*, 494 So. 2d 1297 (La. App. 2d Cir. 1986), rev'd on other grounds, 512 So. 2d 839 (1987); *Aguillard v. Langlois*, 471 So. 2d 1011 (La. App. 1st Cir.), writ denied, 476 So. 2d 356 (1985) (Article 2317 case).

factors taken into account to determine the overall effect of the alternative design on the utility of the product. In some situations, the safety enhancement feature of the alternative design may not only create other dangers for other uses, but *may also impair the usefulness* of the product in other uses. In some circumstances, an alternative design may even produce an overall *net decrease* in the utility of a product.¹⁷

The Louisiana jurisprudence recognizes the following factors as elements to be considered in the utility side of the balancing test:

(1) The *functional usefulness* of the product should be considered, not only in the narrow circumstance of use in the case being tried, but also including its usefulness to the public generally.¹⁸

Within the scope of functional usefulness of the product are not only the variety of uses to which the product may be put, but also considerations relating to *benefits derived* from such uses,¹⁹ such as:

- attaining personal convenience, recreation, or aesthetic satisfaction.
- the efficiency, accuracy, uniformity, and overall effectiveness with which the product performs.

(2) A second major category is "social utility," which our Louisiana jurisprudence describes as "moral, social, and eco-

17. See *Clark v. Sears, Roebuck and Co.*, 254 So. 2d 62 (La. App. 3d Cir. 1971), where the plaintiff either fell off or jumped off her riding lawn mower while it was in motion, which subsequently ran over and injured her foot. The plaintiff claimed that the mower was defective because it was not equipped with a "dead-man's switch" designed into the mower's clutch, a device that required that the clutch be depressed to prevent the mower from automatically shutting itself off.

The defendant's evidence proved, however, that this type of deadman's switch would create more dangers than it avoided. The defendant's engineer testified that the manufacturer's study of such devices on prototypes and consumer tests showed that the user would tire of keeping constant pressure on the clutch and would wire the clutch down, thus negating its function.

18. *Duncan v. State Farm Fire and Casualty Co.*, 499 So. 2d 632 (La. App. 4th Cir. 1986), writ denied, 503 So. 2d 21 (1987); *Baker v. Sewerage & Water Board*, 466 So. 2d 720 (La. App. 4th Cir. 1985); *Guilyot v. Del-Gulf Supply, Inc.*, 362 So. 2d 816 (La. App. 4th Cir.), writ denied, 365 So. 2d 243 (1978); *Goff v. Carlino*, 181 So. 2d 426 (La. App. 3d Cir. 1965), writ denied, 248 La. 1033, 183 So. 2d 653 (1966).

19. *Landry v. State*, 495 So. 2d 1284 (La. 1986); *Hunt v. City Stores, Inc.*, 387 So. 2d 585 (La. 1980); *May v. Lafayette Parish Police Jury*, 487 So. 2d 503 (La. App. 3d Cir.), writ denied, 489 So. 2d 1276 (1986); *Thompson v. Ewins*, 457 So. 2d 303 (La. App. 3d Cir.), writ denied, 460 So. 2d 1043 (1984); *McGee v. McClure*, 442 So. 2d 625 (La. App. 1st Cir. 1983), writ denied, 444 So. 2d 1225 (1984).

conomic conditions." *Entrevia v. Hood*²⁰ described these "social utility" factors as questions the judge or jury is called upon to decide "in the same way that the legislature finds the standards or patterns of utility and morals in the life of the community."

(3) The "economic conditions" embodied in the "social utility" concept embraces a variety of factors including:

- the *financial cost* to the manufacturer and to the public in terms of lowered or increased cost of incorporating the alternative design into the product.
- the effect of economic factors in the marketplace, etc.

Under the new Products Liability Act, such economic conditions are described by the phrase "the burden on the manufacturer of adopting such alternative design."²¹

"Economic conditions" means economics of the marketplace in which the product is sold and in which it competes. Thus, the effect of economic conditions on the price at which the product must be sold to be competitive in the marketplace is a legitimate part of the "Burden on the Manufacturer" analysis, but financial considerations peculiar to one particular manufacturer would not be a legitimate factor.

The wording of the balancing test in the new Act takes into account two effects of the alternative design, and both affect the weight given to the utility side. They are: (i) the adverse effect, if any, the alternative design has on the *utility* of the product, and (ii) the "burden on the manufacturer" of adopting the alternative design. The new Act calls for the risk side to remain constant, and that none of the effects of the alternative design affect the risk side. Rather, all effects of the alternative design add or reduce the weight given to the utility side. As previously noted, the factor "burden on the manufacturer of adopting such alternative design" figures into the utility side of the balancing test. Also noted are the financial considerations: the selling price of the product using the alternative design and its competitiveness in the marketplace are solid components of the "burden on the manufacturer." It must also be noted, however, that the degree of functional usefulness of a product and the degree of danger or safety of a product arising from the alternative design can affect the weight not only of the product's utility, but also can affect the burden on the manufacturer, depending

20. 427 So. 2d 1146, 1149-51 (La. 1983). See also *Thompson v. Tuggle*, 486 So. 2d 144 (La. App. 3d Cir.), writ denied, 489 So. 2d 919 (1986); *Bizette v. State Farm Ins. Co.*, 454 So. 2d 197 (La. App. 1st Cir.), writ denied, 459 So. 2d 539 (1984).

21. La. R.S. 9:2800.56(2) (Supp. 1989).

upon the magnitude and resulting economic importance of the usefulness or safety factors. Thus, to the extent an alternative design increases or decreases the usefulness of a product as originally designed, there results a corresponding effect on the utility of the product. However, it must also be noted that if the alternative design should significantly increase or decrease usefulness, the competitiveness of the product can be affected in that it will be easier or harder to sell depending on the demand for the product even to the extent of providing the product an overall competitive advantage or disadvantage. In this way, the change in usefulness may also affect the burden on the manufacturer element of the utility side. The same results can flow from significant increase or decrease in dangers arising from incorporating the alternative design. To the extent that the alternative design decreases danger, the resulting product becomes more useful; however, any resulting increase in danger makes the product less useful because such dangers must be avoided by restricted use of the product. A large increase or decrease in the magnitude of danger can affect demand for the product and its overall competitive position in the marketplace, and hence, can affect the burden on the manufacturer.

The Relationship of the Alternative Design Evidence to the Balancing Test

The threshold requirement dictates that the alternative design *increase* the product's *safety* to the extent that it is "capable" of preventing plaintiff's damage in the case at bar. As previously noted, however, an alternative design may well do more than provide a particular measure of increased safety. Indeed, the alternative design may also:

- produce increased safety for *other uses* or circumstances of use of the product as well,
- produce *new dangers* not only *to plaintiff* in his particular use of the product at the time of the accident, but also to *other persons* who are making the same use of the product under different circumstances, or are making different uses of the product, and
- at the same time, such alternative design may actually decrease the *utility* of the product.

These principles are well illustrated in *Guilyot v. Del-Gulf Supply, Inc.*²² In *Guilyot*, the defendant manufactured a pipe hook for use on the end of crane cables to move heavy lengths of pipe from one place to another. The defendant designed the pipe hooks to fit into each end

22. 362 So. 2d 816 (La. App. 4th Cir.), writ denied, 365 So. 2d 243 (1978).

of a pipe, so that after a length of pipe was lowered into place and slack came into the cable, the pipe hooks automatically released. The plaintiff was injured at the loading site when a 40 foot length of 36 inch diameter pipe rolled into him as it was laid on a barge. The pipe hooks did not break or slip out while carrying pipe, or otherwise perform contrary to their design. Because of the automatic release feature, the hooks did not hold the pipe after it was lowered.

The plaintiff claimed that the pipe hooks were defectively designed because they had neither a clamp nor a long extension into the pipe to prevent the hook's dislodgement upon release of the pressure from the weight of the pipe. By showing that such devices are used on two other kinds of pipe hooks, the plaintiff showed not only the feasibility of such designs, but also that such alternative designs actually existed on other products and could have been used to avoid the accident.

The court, on its own, applied a risk/utility test to measure whether the pipe hook design was unreasonably dangerous. The court noted that the plaintiff's alternative design would indeed have prevented plaintiff's injury. The court then proceeded to find, however, that the automatic pipe release feature with which the pipe hook was originally designed offered the important utility of *ease of removal*. The release feature also served the legitimate purpose of avoiding risks of injury frequently occurring to workers climbing the pipe in order to release the retaining device as required by plaintiff's alternative design. The original design avoided this new danger as well as providing the "ease of removal" utility. The court held that the risks permitted by the pipe hook as originally designed were not proven to be *unreasonably disproportionate* to the risks avoided by the alternative design—hence, the pipe hooks were not unreasonably dangerous in design. The alternative design proposed by plaintiff not only *decreased* the danger of the use of the pipe hook in his own accident, it *increased* the danger in other situations of use, thus also adversely impacting the utility of the pipe hook.

Guilyot illustrates well how an alternative design can decrease the danger for one use or situation, but can increase the danger in other uses or situations, and at the same time have an adverse impact on the utility of the product.

Most factors contributing to or affecting these risks and utilities are legitimately to be considered in the make-up of the balancing test. However, any factors that are inconsistent with the concept embodied in the threshold requirement—which contemplates comparing the actual product involved in the injury only to an "alternative design" of that same product—are not part of the balancing test. Thus, the new Act does not appear to allow a comparison of the existing product with an alternative product, i.e., a "substitute product."

The availability of an "alternative product" is not a factor in the balancing test under the new Act because:

(1) Section .54(B) specifies that a product is unreasonably dangerous in design "if and only if" it qualifies as such under *Section .56*;

(2) Nowhere does the Act make reference to "alternative product;" and

(3) Taking into account in the balancing test the availability of an "alternative product" is contrary to the expressed intent of Section .56 that the balancing test compares the original product that caused plaintiff's injury with an alternative *design* of such original product. That an "alternative design" and "alternative product" are mutually exclusive concepts is made clear in *Halphen*, which provides "alternative product" as a "second reason" for design liability, and "alternative design" as a separately identified "third reason" for design liability.

Similarly, because the *threshold requirement* of the test for design liability requires the plaintiff to prove the existence of an *alternative design* for the product that is capable of preventing plaintiff's danger, under the new Act, a court or jury cannot find a product unreasonably dangerous if *no* alternative design was available at all—either at the time of manufacture, or for that matter, at the time of trial. An example of such a product is the small "Saturday night special" pistol.²³

Clearly, one of the effects of the new Act is to abolish the unreasonably dangerous *per se* theory of *Halphen*²⁴ as grounds for design liability and as a free standing theory of manufacturer's liability. One of the public policy reasons underlying this change probably is, as recently indicated by the United States Court of Appeals for the Fifth Circuit in *Perkins v. F.I.E. Corp.*,²⁵ that such a determination is more a policy matter for the legislature, than a matter for juries.²⁶ Federal legislation reflecting public policy decisions provides that certain types of products are so dangerous that they should not be sold at all.²⁷

Inherent in the twin requirements of the new Act is the principle that for design liability to exist, there must be something *different* that can be done with the *design* to make it safer. This, in turn, raises the

23. Cf. *Perkins v. F.I.E. Corp.*, 762 F.2d 1250 (5th Cir. 1985).

24. *Halphen v. Johns-Manville Sales Corp.*, 484 So. 2d 110 (La. 1986).

25. *Id.* In *Perkins*, the court wondered whether a product could be so dangerous that it ought not to be sold at all; perhaps that is a determination not for a court, but for a legislature.

26. 762 F.2d at 1265-66, n.44, 1275, n.68 (emphasis added).

27. See, e.g., the Federal Hazardous Substances Act, 15 U.S.C.A. §§ 1261-1276 (1982 & Supp. 1989); the Flammable Fabrics Act, 15 U.S.C.A. §§ 1191-1204 (1982 & Supp. 1989); the Consumer Product Safety Act, 15 U.S.C.A. §§ 2051-2083 (1982 & Supp. 1989); the National Traffic and Motor Vehicle Safety Act, 15 U.S.C.A. §§ 1381-1431 (1982 & Supp. 1989).

fundamental question of whether, *under the new Act*, a product must always be made in the *safest* possible manner. Put another way, does the new Act require the manufacturer to provide increased safety features for a product whose utility *already* outweighs the risks it presents? The issue is an important one and poses the question of whether the new Act contemplates that if the utility of a product does outweigh its risks, the product can in effect be "safe enough," even though an alternative design identified by plaintiff would have the net effect of making the product safer without impairing the product's utility. The new Act gives important guidance for this determination. Section .54(B) provides: "A product is unreasonably dangerous *if and only if*"

In the design section, Section .56, the only provision addressing the measure of safety required of a product is the single sentence describing the risk/utility balancing test. As previously indicated, the Act expresses no notion of a required margin of safety. Rather, the Act speaks only in terms of a product being "unreasonably dangerous;" as applied to design liability, the test for unreasonably dangerous is measured only by whether the product's risks *outweighs to any extent at all*, by however thin a margin, the product's utility. The sole determinants of the measure of "unreasonably dangerous" in design, therefore, address only whether the product's risks outweigh *to any extent* the product's utility. The reasonable interpretation of the legislative intent appears, therefore, to be that so long as the utility of a product outweighs its risks, a manufacturer may lawfully adopt a design that incorporates less than all available safety features, or may incorporate safety features that are less effective than others that may be available. There is solid authority for this interpretation, not only from the wording of the new Act itself, discussed above, but also because the balancing test under the new Act is taken verbatim from the 1983 proposed Louisiana Products Act prepared by the Louisiana State Law Institute. The official comments of the Law Institute concerning the design liability section of that proposed Act made clear that the intent was as follows:

The availability of a variety of products with differing levels of quality and safety and corresponding differences in price is desirable, so long as the resulting products are not unreasonably dangerous.²⁸

It appears, therefore, that by adopting the new Louisiana Products Liability Act, the legislature has now legislatively overruled cases such as *Halphen v. Johns-Manville Sales Corp.*²⁹ and *Toups v. Sears*.³⁰

28. La. H.R. 711, Reg. Sess., § 2800.5, comment (c) (1983).

29. 484 So. 2d at 110.

30. 507 So. 2d 809 (La. 1987). Additionally, the new Act would overrule such cases

Application of the Balancing Test by the Trier of Fact

Potentially, the factors going into the makeup of both sides of the balancing test can be considered individually or in related groups. Applying these factors in related groups makes the factors more manageable for the trier of fact and permits the balancing test to be divided into three steps.

Step 1:

Quantifying the risk and the utility of the product as the product was originally designed and existed at the time of claimant's accident.

(a) The weight to be assigned to the *risk side*, involves quantifying both the likelihood that the product would cause claimant's damage on the occasion of plaintiff's accident and the gravity of that injury.

(b) The weight to be assigned to the *utility side*, involves an assessment of the weight that is found to stem from the overall utility of the product for general uses that are within the scope of "reasonably anticipated use" of the product as originally designed.

Step 2:

Quantifying the effects of the alternative design, all of which are taken into account on the utility side. With respect to the effect of the alternative design, taking into account all uses and circumstances of use of the product that are within the scope of "reasonably anticipated use":

(a) The *reduced danger* resulting from incorporation of the alternative design is compared with any *increased danger* also resulting therefrom; and, a quantification of weight for the utility side is then made of the net danger reduction or increase arising from the use of the alternative design.³¹

(b) Likewise, any *utility reduction* arising from the alternative design is compared with any *utility gained* also resulting therefrom; and, a quantification of weight is then

as *Thompson v. Tuggle*, 486 So. 2d 144 (La. App. 3d Cir.), writ denied, 489 So. 2d 919 (1986), where the third circuit held it was not enough for a safety feature to be available as an option rather than incorporated into the basic product at its manufacture.

31. As indicated, the effects of the alternative design on risk and on utility of the product are both accounted for on the utility side of the balancing test. The quantification of weight for the net danger reduction produces added weight to the utility side from the corresponding increase in the product's utility. The opposite effect occurs with respect to a net danger increase.

made of the net utility reduction or increase arising from use of the alternative design.

(c) A quantification of weight is assigned to the burden on the manufacturer of adopting the alternative design.

(d) The weight quantifications in Step 2 are then compared and combined to determine, in effect, whether modifying the original design according to the alternative design results in a *net benefit* or *net detriment* in utility of the product. This resulting weight quantification is the *net effect* of the alternative design.³²

Ascertaining the net benefit or net detriment flowing from the alternative design is one of the natural points of focus of the overall balancing process, and at trial, will ordinarily be the focus of argument by both plaintiff and defendant. Of course, if incorporation of an alternative design ultimately produces a net detriment, it is immediately recognized that plaintiff's alternative design cannot meet the ultimate requirement of the balancing test for manufacturer's design liability.

Step 3:

Balancing the "*risk side*" against the "*utility side*."

(a) The weight of the *net benefit* or *net detriment* from Step 2's analysis of the effects of the alternative design is now *combined* with the weight earlier assigned in Step 1.
(b) to the utility of the product as originally designed.

- The *net benefit* of an *alternative design* serves as a *deduction* from the original utility weight.
- The *net detriment* of an alternative design serves as an *addition* to the original utility weight.

In this manner, the "*utility side*" of the balancing test is adjusted in its weight upward or downward, as required, and the "*utility side*" is now ready for final weighing in the balance with the "*risk side*."

(b) The weight of the "*utility side*" as adjusted is now compared with the weight of the risk side made in Step 1, which has remained constant throughout the balancing process.

- As the statute requires, if the weight of the risk side now outweighs the utility side, by however slight a margin, the balancing test requirement for design

32. It may be observed, on the other hand, that the same results could be obtained by simply assessing weights to all these factors individually, and then carrying them over collectively to Step 3.

liability is met.

- Otherwise, the requirement is not met.

Explaining the balancing test in a jury charge is challenging. The appendix to this article contains a recommended charge for the jury in a product liability design case. The suggested jury charge does not include the defenses available to the manufacturer under Section .59 of the Act, which operate to relieve the manufacturer of liability even though plaintiff produces evidence to show that the product was unreasonably dangerous in design.

Affirmative Defenses of the Manufacturer Under Section .59

Even where plaintiff bears his burden of proving that the product was unreasonably dangerous in design, the manufacturer may avoid liability by proving any one of three affirmative defenses under Section .59. These three defenses are:

(1) Defense relating to the danger that causes claimant's damage, upon proof by the manufacturer:

- that at the time the product left the manufacturer's control, either the *existence* of such danger, or the *design characteristic* that caused the damage, was not known to defendant manufacturer, and was not knowable from then existing, reasonably available scientific and technological knowledge.

(2) Defense relating to claimant's identified alternative design, upon proof by the manufacturer:

- that at the time the product left the manufacturer's control, the *existence* of claimant's alternative design was not known to defendant manufacturer and was not knowable from then existing, reasonably available scientific and technological knowledge.

(3) The "Feasibility Defense," upon proof by the manufacturer:

- that at the time the product left the manufacturer's control, claimant's identified *alternative design was not feasible* from then existing, reasonably available scientific and technological knowledge or economic practicality.

Under the doctrine of *Webster v. Rushing*,³³ inasmuch as the elements of these three defenses raise new issues and appear not to be part of

33. 316 So. 2d 111 (La. 1975).

claimant's burden of proof, all three appear to be affirmative defenses, which the defendant must prove under Louisiana Code of Civil Procedure article 1005. All three of these affirmative defenses relate to *knowledge* that the manufacturer, in fact, did *not* possess at the time the product left its control. All three of these defenses make clear that the manufacturer is required to have only the level of knowledge and expertise that was "reasonably available" from scientific and technological knowledge existing at the time the product left the manufacturer's control. The standard of knowledge and expertise required of a manufacturer with respect to its design liability is a negligence standard. The essential difference in the three defenses relates to the subject matter of the knowledge.

- The first affirmative defense relates to knowledge of the particular type of danger that caused plaintiff's harm, such as knowing that exposure to asbestos causes cancer, and applies not only to knowledge that the product is the source of such danger, but also to knowledge of the design characteristic that causes the danger—for example, knowledge that smoke from cigarettes causes cancer.
- The second affirmative defense affords a defense to design liability if the manufacturer proves that at the time the product left its control, the existence of claimant's alternative design was not known or knowable from then existing reasonably available scientific and technological knowledge.
- The third affirmative defense is a type of "feasibility defense" that also relates to plaintiff's identified alternative design. It affords a defense to design liability if the manufacturer proves that:

- (1) the alternative design was not practical from an economic standpoint, that is, from the standpoint of *financial* feasibility, or
- (2) that the alternative design was not feasible from reasonably available scientific and technological knowledge existing at the time the product left the manufacturer's control.

In practice, the overall defense approach of the manufacturer is not simply to focus on available affirmative defenses. Rather, the defensive posture of the manufacturer frequently is to prevent the plaintiff from establishing elements that the plaintiff must prove to establish that the product was unreasonably dangerous in its design. Specifically, the manufacturer may focus his attack on causation issues, such as the manner of occurrence of the accident or the point in time or manner in which the injury occurred. Changes in the product occurring since the product left the manufacturer's control also provide a defense focus for the

manufacturer, as for example, where the product contains substituted components that were not made by defendant,³⁴ or the product has been subjected to alterations or modifications that are not reasonably anticipated,³⁵ or improper replacement parts are incorporated in the product.³⁶ The manufacturer may also attack the use of the product at the time of the accident as being not within "reasonably anticipated use," as for example, where a glass bottle is used as a hammer.

Overall, in view of the character of the manufacturer's foregoing affirmative defenses, the manufacturer's design duty under the new Louisiana Products Liability Act appears, in practical effect, to be a negligence standard. In measuring the manufacturer's design liability, the focus of the new Act is on the manufacturer's conduct and knowledge equally as much as the focus is on the product itself.

34. *Thornhill v. Black, Sivals & Bryson, Inc.*, 394 So. 2d 1189 (La. 1981).

35. *Frey v. Travelers Ins. Co.*, 271 So. 2d 56 (La. App. 4th Cir.), writ denied, 273 So. 2d 840 (1973).

36. *St. Pierre v. Gabel*, 351 So. 2d 821 (La. App. 1st Cir. 1977).

APPENDIX

*Recommended Jury Instruction**"Unreasonably Dangerous in Design"*

For a product to be "unreasonably dangerous in design," the plaintiff must prove that at the time the product left the manufacturer's control:

(1st) there existed an alternative design for the product that was capable of preventing plaintiff's damage, and
(2nd) the likelihood that the product would cause plaintiff's damage, and the gravity of that damage, outweighs:

- (a) the burden on the manufacturer of adopting such alternative design, and
- (b) the adverse effect, if any, of such alternative design on the utility of the product.

In connection with this balancing test, which this second requirement calls upon you to make, I further instruct you as follows:

- In determining the likelihood that the product would cause plaintiff's damage, you must consider not only the physical design of the product, but also you must take into account adequate warnings that the manufacturer has taken reasonable steps to provide to users and handlers of the product.
- In determining the burden on the manufacturer of adopting such alternative design, you must consider the economic cost to the manufacturer to incorporate the alternative design into the product, as well as practical realities of the marketplace, such as, for example, the ability of the manufacturer to price the product so that it is competitive, and the effect on demand for the product arising from any changes in the utility of the product. Such economic costs exclude financial considerations peculiar to one particular manufacturer.
- The utility of the product as used in the balancing test includes the product's functional usefulness, as well as any moral, social, and economic benefits provided by the product. These include, for example:
 - benefits derived from the product's use in terms of its providing personal convenience, recreation, or aesthetic satisfaction, as well as providing benefits of a commercial, industrial, health, or other nature, and
 - benefits in terms of the overall effectiveness with which the product performs, including such matters as the product's efficiency, accuracy, and uniformity.

In determining the effect of the alternative design on the utility of the product, you must determine not only the utility of the product as it was designed and existed at the time of the accident, but you must also consider changes in the product's utility arising from incorporating the alternative design into the product, such as:

- increase or decrease in the usefulness of the product because the alternative design makes the product safer to use or more dangerous to use by users generally.
- increase or decrease in the functional use to which the product may be put by users generally.
- increase or decrease in the moral, social, and economic benefits derived from the product by users generally.
- the effects of the alternative design to make the product safer or more dangerous to users generally, or to increase or decrease the product's usefulness to users generally from a functional, moral, social, or economic standpoint may also be effects of such importance and magnitude so as to increase or decrease the burden on the manufacturer of adopting the alternative design. For example, changes in the safety or danger of the product, or in the functional usefulness of the product may be sufficiently important to affect the market demand for the product, or to affect the competitive position of the product in the marketplace.

In making the balancing test, you must keep in mind that you are being called upon to apply the balancing test to the product as it would be changed in its design by incorporating into it the alternative design identified by plaintiff, and not to evaluate only the effects of the alternative design alone.

Thus, in applying the balancing test you should assess and give weight on the one side to the utility of the product as it was designed by defendant and as it existed at the time of the accident, taking into account any reasonably anticipated changes and modifications in the product. You should then adjust this utility weight by taking into account the effect of the plaintiff's alternative design. To this net utility weight, you must add the weight that you assign to the burden of the manufacturer of adopting the alternative design. These combined weights together comprise one side of the balancing test.

Next, you must determine the weight to be assessed to the other side of the balancing test, which is the "risk side" and is the likelihood the product would cause plaintiff's damage, and the gravity of that damage. Having assigned this weight to the risk side, you are now in a position to compare the weight you have assigned to the risk side, with the weight you earlier assigned to the utility and burden of the manufacturer side of the test.

In comparing the weight of these two sides, I instruct you that if the weight you assign to the risk side outweighs, to any extent at all, the weight you assigned to the other side composed of the utility and the burden on the manufacturer, then I instruct you to find the defendant's product was unreasonably dangerous in its design *if, and only if*, you also find that:

- (1) the alternative design identified by plaintiff was in existence at the time the product left the manufacturer's control, and
- (b) that such alternative design was capable of preventing plaintiff's damage.

